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IMPACT OF A CAREER PLANNING COURSE ON ACADEMIC PERFORMANCE AND GRADUATION RATE

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ABSTRACT

A study was conducted to assess the impact of a career-planning course in terms of time taken to graduate, graduation rate, credit hours taken, number of course withdrawals, and cumulative GPAs. Student course participants (N = 544) were compared to a matched sample of non-course participants (N = 544) after 5 years. Results showed that the 2 groups differed with respect to hours taken to graduation and number of course withdrawals. Women participants graduated in less time than nonparticipants but had more course withdrawals. Men took longer to graduate but had fewer course withdrawals and higher GPAs.

The rising cost of obtaining a college education, student academic performance, time taken to graduate, and student graduation rates continue to concern college administrators, state legislators, and governors. For example, Florida Governor Jeb Bush, in a speech to the boards of trustees of state universities, indicated that one of the primary goals of each board should be to reduce the millions of dollars spent annually by taxpayers and parents to educate the large numbers of full-time students who fail to graduate in four years (Spencer, 2001).

Freshmen year experience (FYE) courses have become a well-known program addressing these concerns at campuses across the country (Upcraft & Gardner, 1989). Such courses are intended to acclimate students to college life, assist them in selecting a major and career goal, and equip them to proceed effectively toward degree attainment. A less well-known effort to address these concerns is the implementation of a career planning course taken for college credit aimed at facilitating students' problem-solving and decision-making skills as well as their educational and career planning. Career planning courses might be viewed as an extension of FYE courses (Sidle & McReynolds, 1999) or as part of a comprehensive high school to college student transition and development program.

The practice of using career planning courses to enhance the educational and career development of college students has a long history dating from colonial times. Freshman orientation courses, which appeared as early as 1911, included several hours of instruction on vocational guidance (Maverick, 1926). In a recent literature review, Folsom and Reardon (2003) found 80 articles regarding the design, development, management, and evaluation of career courses in colleges and universities. More specifically, they found 46 research reports of studies on the effectiveness of career courses offered in colleges since the 1920s.

One of the first comprehensive career planning courses was offered in the General College of the University of Minnesota in 1932 (Borow, 1960). About 30 years after the Minnesota course was implemented, 33 postsecondary institutions were offering full academic credit career planning courses (Carter & Hoppock, 1961). Sixty years later, Mead and Korschgen (1994) used a random sample composed of two colleges from each state and found that 61 colleges (out of 64 sampled from 32 states responding), offered a career course. A more recent survey of 1,688 college staff members of the National Association of Colleges and Employers found 136 (30% of 452 respondents) offered credit-bearing career planning courses at their institutions (Collins, 1998). These survey results suggest that career courses are offered on many college and university campuses, perhaps occurring in as many as one-third of the institutions across the country.

The resultant effects of taking career planning courses may be grouped into two categories, outputs and outcomes (Peterson & Burck, 1982). *Outputs* allude to the immediate effects of taking a course related to the acquisition of knowledge, skills and attitudes. Examples of outputs of a career planning course may include: a) attaining a clearer knowledge of one's interests, abilities, and values; b) being able to use a library to acquire educational or occupational information; c) acquiring career problem-solving skills; and d) developing greater self-confidence in one's ability to attain a life/career goal. *Outcomes*, on the other hand, refer to the more distal or indirect effects on career choice and career planning such as shorter time to graduation, higher levels of academic performance, higher rates of retention, the increased use of career-related internships to acquire job skills, and fewer credit-hours taken to earn a degree.

A review of studies addressing the effects of career interventions found 38 reports indicating positive changes in output variables (e.g., career decision making) and 15 reported a positive impact in outcomes (e.g., retention) (Folsom & Reardon, 2003). In addition, career courses have been shown to be effective in promoting outputs related to career decision making and career planning (Hardesty, 1991; Oliver & Spokane, 1988). A more recent study found that career planning courses were more effective in inducing selected outputs than individual or group counseling, group test interpretation, workshops, computer interventions, or exploration without career counseling (Whiston, Sexton, & Lasoff, 1998).

While the direct effects (outputs) of career courses appear to have been well documented, the indirect effects (outcomes) seem much less so. One study found that undecided freshmen completing a career planning course had a higher retention rate one year later than undecided freshmen that did not take such a course (Bechtol, 1978). Similar findings were recently reported for an FYE course (Sidle & McReynolds, 1999). A 10-year follow-up study reported that students who had experienced a career orientation class had a higher graduation rate than those who did not (Goodson, 1982). Moreover, the outcome of higher retention rates achieved by those taking a career planning course were reported by Carver and Smart (1985). In each of these studies, the author (or authors) suggested that their studies should be replicated and the domain of potential outcomes expanded. Furthermore, in most of the previous studies, gender-specific effects (both outputs and outcomes) of taking career planning courses were not examined.

The term "career planning course" is defined in this study as a course taken for regular academic credit with learning objectives, mastery performances, and grades connoting levels of attainment. The purpose of the present study was to assess the outcomes of a comprehensive career planning course taken for college credit by investigating not only the effect in terms of graduation rate, but also in terms of academic performance and the efficient attainment of the baccalaureate degree. The null hypotheses were that there would be no significant differences between students who successfully completed a career planning course and those who did not in terms of: a) time taken to graduate; b) graduation rate; c) credit hours taken to graduation; d) number of course withdrawals executed prior to graduation; and e) cumulative GPA at graduation. Further, it was hypothesized that the effects of taking a career planning course would not be moderated by gender.

METHOD

Participants

Archival data from permanent records were gathered on 544 students who completed a 3-credit career planning course at a large southeastern university between 1989 and 1993 and who earned a grade of B– or higher. Students with

lower grades, C+ or below, were excluded due to a concern that they may not have assimilated the learning necessary to reflect a valid treatment effect on the outcome variables of interest in the study. About 10% of students enrolled in the course obtain grades below B–. A comparison group of 544 was drawn from non-participants who matriculated at the university during the same period. Through sorting, the comparison group was reasonably matched (no significant difference, $p < .05$) with the career planning class participants according to gender, race, and average high school GPA. There were, however, significant ($p < .05$) post hoc differences with respect to class level, total SAT scores, year of matriculation, and distribution across major fields. Between group differences in class level, SAT scores, and year of matriculation were partitioned through covariance. Approximately three-fifths of students enrolled in the career planning courses were second semester sophomores referred by academic advisors for assistance in academic and career planning.

Procedures

The career course examined in this study was developed in 1973 (Peterson, Sampson, Jr., & Reardon, 1991) and has been offered continuously since then. The present course is based on Cognitive Information Processing Theory (CIP; Peterson, Sampson, Jr., Lenz, & Reardon, 2002), which is incorporated into the text, *Career Development and Planning: A Comprehensive Approach* (Reardon, Lenz, Sampson, & Peterson, 2000a), and related workbook (*Student Manual*; Reardon, Lenz, Sampson, & Peterson, 2000b).

The course content was comprised of three units. Unit I, "Career Concepts and Applications," focused on self-knowledge, knowledge about options, and decision making. Assignments included writing an autobiography and completing the Self-Directed Search (Holland, 1994) and a skills assessment activity. Students developed knowledge about occupational and educational options through the use of three computer-assisted career guidance systems (e.g., SIGI PLUS, Discover, Choices) and by writing a research paper on one of three selected occupations. The concepts of decision making and meta-cognitions were introduced in this unit and students had the opportunity to apply this knowledge through creating an Individual Action Plan (IAP). The IAP included a career goal and a breakdown of steps to meet that goal which included activities, resources needed, and completion dates.

Unit II, "Social Conditions Affecting Career Development," focused on current social, economic, family, and organizational changes affecting the career planning process and the need for students to develop more complex cognitive schema to solve career problems. This unit focused on the socioeconomic context of contemporary career planning for individuals. Unit III of the course focused on employability skills and strategies for implementing academic/career plans. Assignments included two information interview reports, the completion of a

resume and cover letter, and a paper presenting the students' own strategic/academic career plan. This final paper utilized the decision-making model from CIP theory as an over-arching cognitive strategy to help students integrate the mastery of course content into their own educational and career planning efforts.

Student achievement of course objectives was assessed by instructors through the use of a performance contract that provided a point scheme for evaluating outputs in 16 different areas of behavior related to the course objectives. Letter grades were assigned based on point accumulation (e.g., A = 90–100% of possible points). The course was typically offered in 10-12 sections per year, each with 25–35 students and taught by a lead instructor and a group of teaching assistants (TAs), providing an instructor/student ratio of 1:8-9. Learning activities included lectures by instructors, panel presentations, and small and large group breakout sessions. Each TA was assigned a small group of students who met throughout the semester during class time.

Data Analysis

A MANCOVA analysis was employed to ascertain a multivariate effect with time to graduation, credit hours taken to graduation, number of course withdrawals, and cumulative GPA as dependent variables. As noted previously, variation attributed to SAT scores, class level, and year of matriculation were partitioned through covariance. The assumptions of independent variation among dependent variables, normality, and homogeneity of variance were met. The alpha level was set at .01 to control for family-wise error (Tabachnick & Fidell, 1996).

RESULTS

Graduation rates six years following matriculation were 81% for participants in the career planning courses and 84% for non-participants. A chi-square test of independence indicated there was no statistically significant difference between groups (Chi-square = 1.418, $df = 1, 1088$, $p > .05$). The results of the MANCOVA analysis revealed a significant multivariate effect, Hotellings Trace = 9.076, $F = 1.467$, Wilks Lambda = .009, $p < .001$. Post-hoc univariate ANCOVA analyses were conducted to test the effect of the career planning course on the individual dependent variables. There were no significant differences between participants and non-participants with respect to months taken to graduation ($F(1, 1083) = 1.095$, $p > .01$) and cumulative GPA ($F(1, 1083) = 1.149$, $p > .01$). There were, however, significant differences between groups with respect to hours taken to graduation ($F(1, 1083) = 1418$, $p < .001$, $ES = .03$) and number of course withdrawals ($F(1, 1083) = 1.535$, $p < .001$, $ES = .08$). The observed and adjusted means for all dependent variables are presented in Table 1.

Table 1. Means and Adjusted Means of College Outcome Measures between Course Participants (n = 544) and Nonparticipants (n = 544)

Outcome variables	Participants		Nonparticipants		
	M	*SD*	*M*	*SD*	*F*
Months	52.26 (52.08)[a,b]	14.77	55.17 (50.18)[a,b]	22.16	1.095
Credit hours	110.27 (110.85)[a,b]	35.82	108.93 (109.90)[a,b]	39.25	1.418
Withdrawals	.81 (.84)[a,b]	1.62	.85 (.97)[a,b]	1.67	1.535
GPA	2.72 (2.68[a,b]	.56	2.79 (2.67)[a,b]	.59	1.149

[a]Adjusted means. [b]Covariates: SAT, class level, year of matriculation.

Regarding gender effects there was no significant interaction between gender and career planning course participation with respect to graduation rate (Chi-square = .007, df = 1, $p > .05$). The graduation rates for females were 82% for course participants and 87% for non-participants. The graduation rates for males were the same for both groups, 79%. However, isolating the effects of the course based on gender led to two important findings. First, female course participants graduated in significantly ($p < .01$) less time than female non-participants (50.1 vs. 60.8 months, adjusted), but executed more course withdrawals (.81 vs. .53, adjusted). Second, male participants took longer to graduate (54.5 vs. 47.7 months, adjusted), but executed fewer course withdrawals (.88 vs. 1.22, adjusted) and had higher GPAs (2.6 vs. 2.4, adjusted) than non-participants (see Figures 1 and 2).

DISCUSSION

This study sought to assess the impact of a career planning course on the graduation rate and academic performance of college students. The course did have a positive impact, though slight, on both credit hours taken to graduation and the number of course withdrawals executed prior to graduation. These findings led to the conclusion that course participants took significantly ($p < .001$) fewer credit hours to graduate and executed significantly ($p < .001$) fewer course withdrawals than non-participants. There were no significant ($p > .01$) differences between participants and non-participants with respect to graduation rates, time taken to graduation, and cumulative GPA at graduation.

Although the graduation rates of participants and non-participants could have differed by chance, this finding merits additional attention. Non-equivalence of the control and comparison groups might have masked a positive effect of the course on the graduation rate. Because graduation rate is a discrete outcome measure, it could not be part of the MANCOVA analysis. Thus, it was not possible

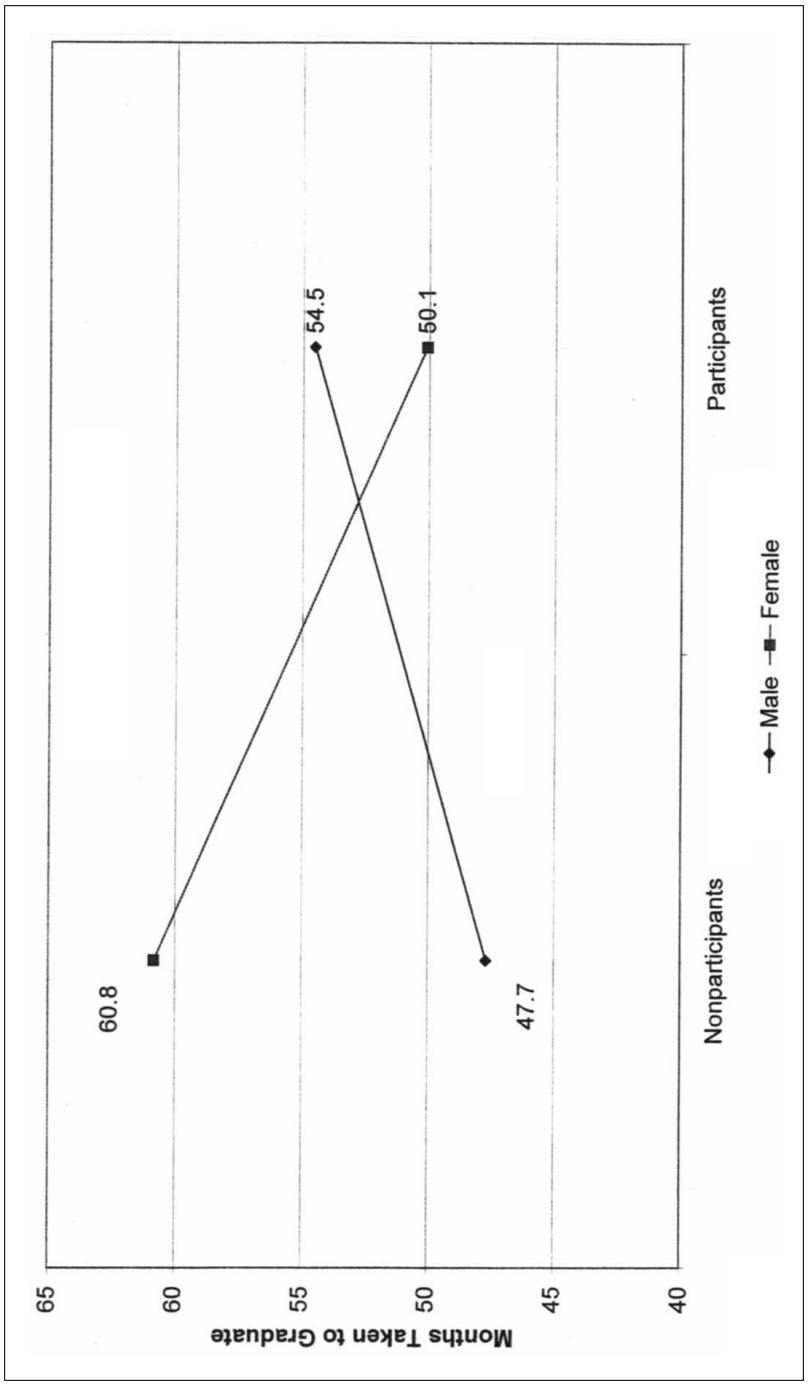

Figure 1. Interaction of adjusted means of months to graduation for non-participant and participant females and males.

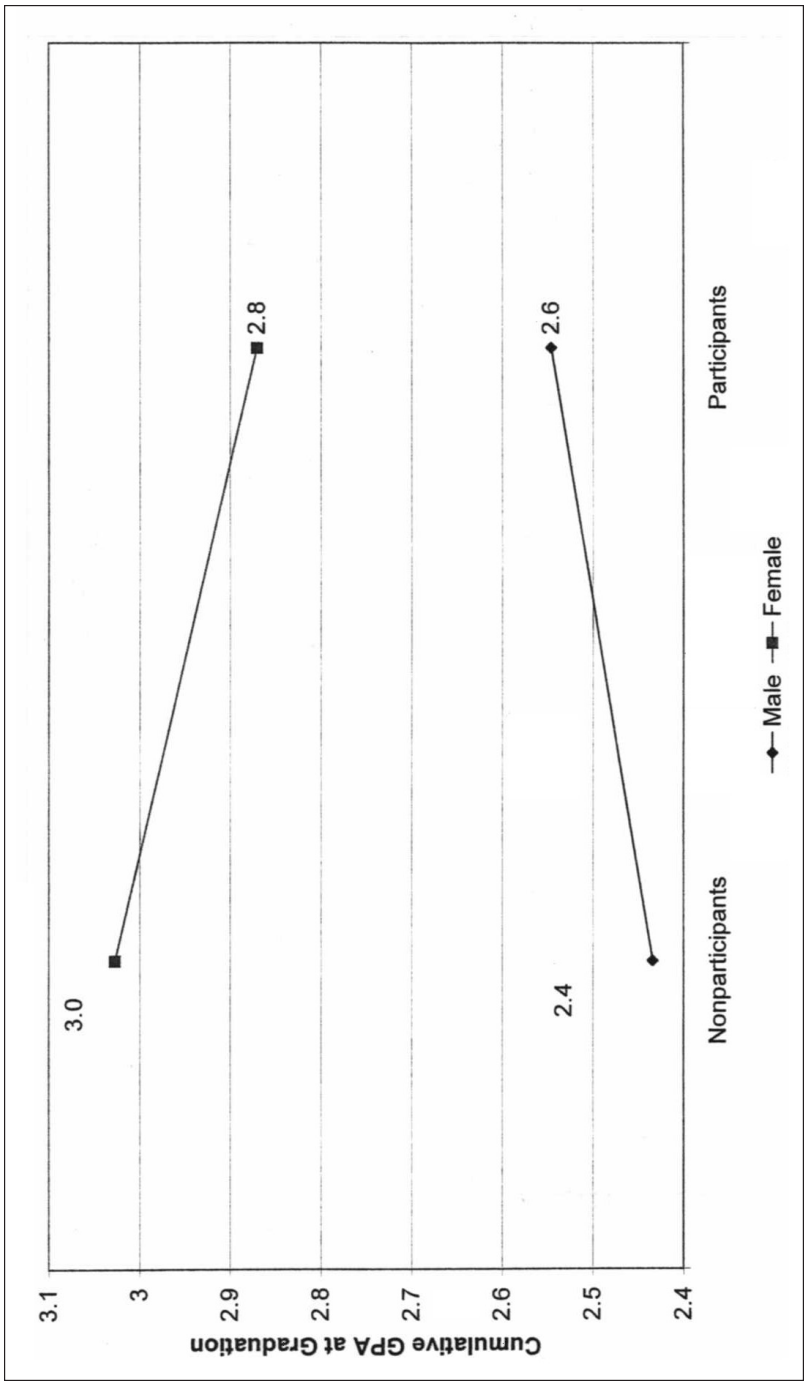

Figure 2. Interaction of adjusted means of cumulative GPA for non-participant and participant females and males.

to partition the effect of SAT score, class level, and year of matriculation (covariates in the MANCOVA analysis).

At first glance, the fact that course participants graduated with approximately one less credit hour than non-participants may seem trivial though statistically significant and detectable due to the high power ($P = 1.000$) of this MANCOVA design. However, a one credit hour decrease in the total number of credit hours needed to graduate is a significant contribution to cost efficiency when considering that more than 300 students take this course annually at this university.

To elaborate on this point, the following line of reasoning is set forth. Assume that a typical faculty member generated 180 student credit hours (SCH) per academic year by teaching four 3-credit courses to 15 students per class. If 300 students in the career course each took one less hour to graduate, the saving would be 1.67 faculty lines. Given that about 5,500 students graduate from our university annually (Florida State University, 1999–2000), that means that 5,500 student credit hours could be saved each year if the career course was taken by each student. Assuming again that each faculty member generates about 180 student credit hours (SCH) annually, then over 30 faculty lines could be saved by such a saving (5,500 hours ÷ 180 SCH = 30.6). If each faculty line had a salary of $50,000, the bottom line would be $1,530,000, which would be quite significant to academic administrators, not to mention students and their parents who pay tuition and fees. This analysis does not include the fees and income generated by 300 students taking the course each year, the size of the classes, or the costs for instructors or materials.

Course withdrawals that follow the drop/add period cause added administrative expense to the higher education process. In addition, course slots may be unnecessarily denied to students who need a particular course in order to efficiently proceed toward graduation. Therefore, although the positive effect of this course outcome seems slight, although statistically significant, the magnitude of this effect on efficiency becomes larger if applied to hundreds of career courses offered to thousands of students across the country.

As noted earlier, previous research on the impact of career courses did not find differences between men and women students on either output or outcome variables. However, such differences were revealed in this study. Female course participants graduated in fewer months than men. It is unclear why this happened. Furthermore, the cumulative GPAs of male course participants in contrast to female participants increased. It is also unclear why this happened. These findings merit further study.

LIMITATIONS

The archival nature of this study introduced some important limitations in interpreting these data and for consideration in the design of future studies. It

should be noted that the adjusted means of the number of credits for course participants (110.9) and non-participants (109.9) were below the 120 credits required for graduation from this institution. The reason for this discrepancy is that some student records in both samples contained very low credit hours taken to graduate due to stop-out activity (sporadic activity that involved intermittently dropping out of school for a period of time and then resuming degree pursuits). The manner in which this institution records the number of credit hours accumulated at graduation reflects only the number of hours accumulated since the most recent enrollment date. This phenomenon is assumed to be randomly distributed between both groups and thus resulted in lower than expected mean credit hours for this outcome. This effect should not diminish the usefulness of these data in comparing the two groups used in this study.

There were numerous factors and events that may have affected the outcome variables of interest in this study and it was impossible to account for all of these. However, use of a five-year time span to accrue data mitigated the potential of substantially inaccurate conclusions being drawn from observance of a few atypical years.

Observed differences between the two groups could have been due to differences in the students comprising the participant and non-participant groups (Cook & Campbell, 1979). Controlled factors were intended to produce reasonable similarity between the groups and thereby strengthen internal validity. These included high school GPA, SAT score, gender, race, class level, and year of matriculation. Nevertheless, because a majority of students enrolled in the career course were referred by academic advisors or other faculty or staff, there is a concern regarding selection bias as a result of a personality or motivational factors.

It was not feasible within the scope of this study to control for two major influences on retention, such as involvement in educational related activities (Astin, 1984) and "connectedness" with the institution through quality relationships with staff and faculty (Pascarella & Terenzini, 1991). Rather, the study proceeded with the expectation that general overall similarities with regard to these two variables existed between course participants and non-participants.

In spite of these limitations, the design of this study should support generalization with a reasonable degree of confidence to other career development class sections offered within this particular institution. Also, this study design enables one to speculate about the course outcomes investigated in this study to similar courses offered at other institutions.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

In light of increasing costs in higher education, combined with increasing enrollment demands in many parts of the country, efficiency in the pursuit and award of degrees is of central concern to administrators of colleges, universities, and state systems of higher education. An intervention improving the efficiency

with which students complete their degrees is of particular interest to those who develop and implement policy in higher education. These results lend support, albeit modest, to the argument that a career planning course may be an effective intervention that results in more efficient and cost-effective degree completion processes. As pointed out earlier, a reduction of even one credit hour in degree attainment at the individual level may result in dramatic savings and improved efficiency at the institutional level. Hence, career courses may be worthy of increased funding support and expanded offerings. This research adds to the literature on the broad effects of career planning courses (Folsom & Reardon, 2003).

This study should be replicated in order to confirm and extend the results. Although career planning course participants in the current study graduated at rates significantly exceeding those of the general population of students at the institution, 81% vs. 69% (Florida State University, 1999-2000), the current study did not sufficiently establish a positive course impact on retention. Future studies should seek to do so. Additionally, future studies should examine the effects of career courses on the number of changes in major field executed by course participants compared with non-course participants. This can be another possible indicator of the efficiency with which students are pursuing their academic and career goals. A future career course study might also exclude seniors because of the limited time available to assess the course impact upon the variables of interest.

Finally, unraveling the apparent gender-specific effect of the course is another topic worthy of further research. The course outcome of improved career focus appears to affect males and females differently concerning time taken to graduation, execution of course withdrawals, and cumulative GPA. Future research should seek to validate these differences and to ascertain why they occur.

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